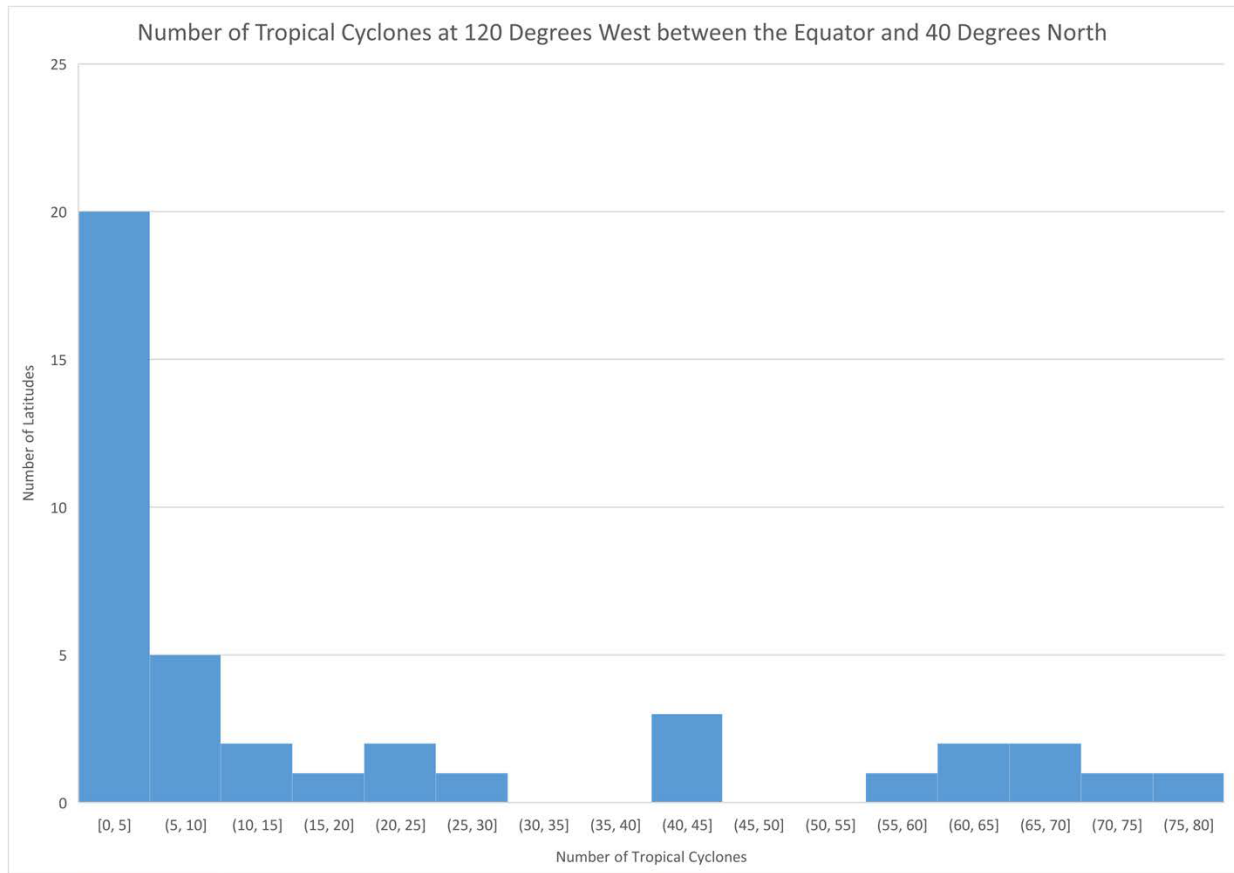# My NASA Data - Mini Lesson

# Tropical Cyclone Counts Histogram

Mini Lesson

Tropical cyclones are sometimes called *hurricanes or typhoons*. The image is a model of the number of tropical cyclones around the world from 1842 – 2018. It was generated in the My NASA Data [Earth System Data Explorer](#).

In this lesson, we will use the tropical cyclone patterns we identified on the map below during [this activity](#) to help us analyze a type of graph called a **histogram**.
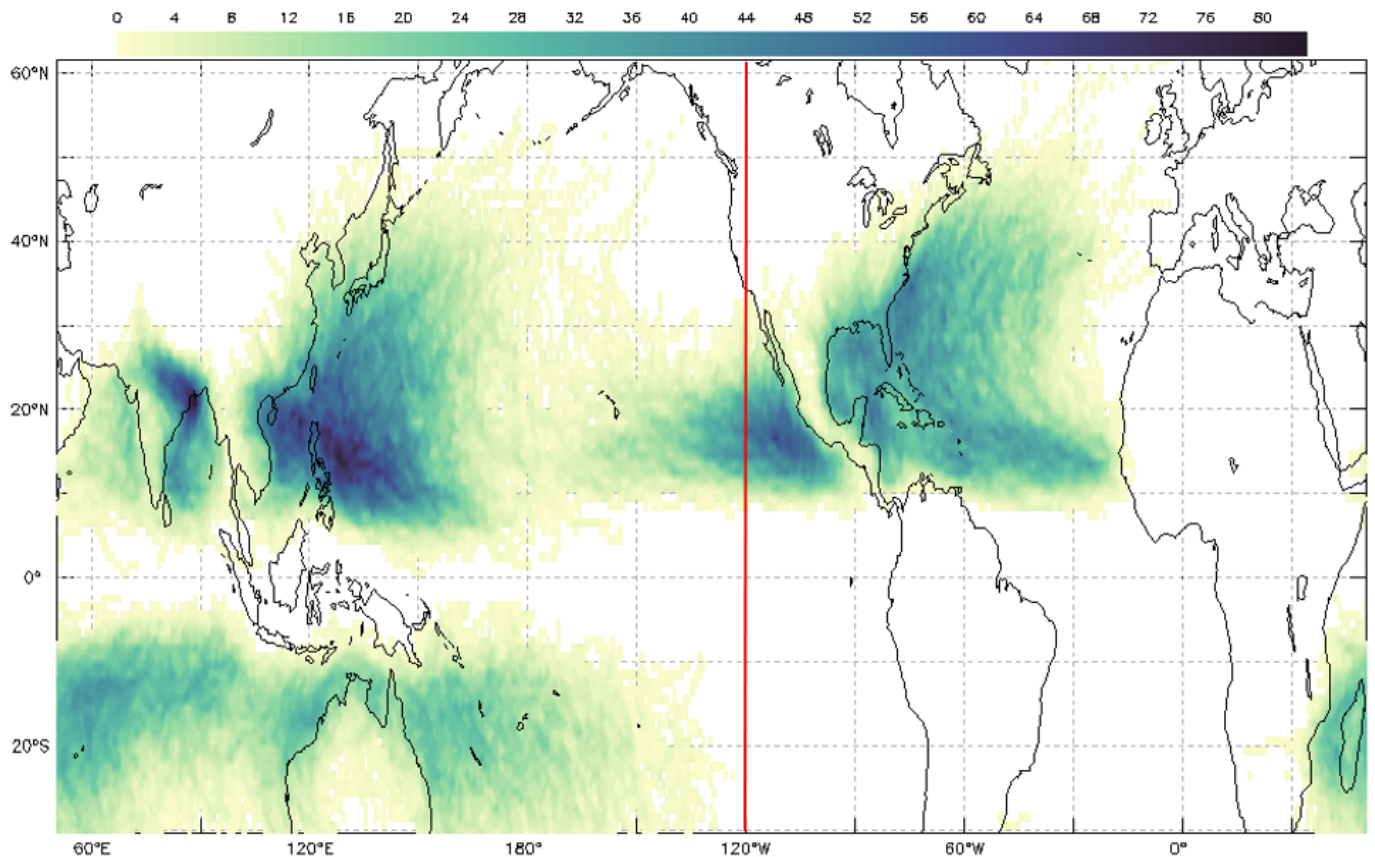
A **histogram** is a type of graph which shows variability (or how spread out the data are) within a group. They show numerical data by grouping them in logical ranges called "bins" (also known as "intervals" or "buckets") of equal width. One may use a histogram to answer specific kinds of questions about their data.

- *How variable are the _____ data ?*
- *What is the range and distribution of _____?*
- *How different are the values of the _____ data?*
- *How similar are the values of the _____ data?*

Use the histogram provided for the number of tropical cyclones at 120 degrees West for each

Number of Tropical Cyclones at 120 Degrees West between the Equator and 40 Degrees North
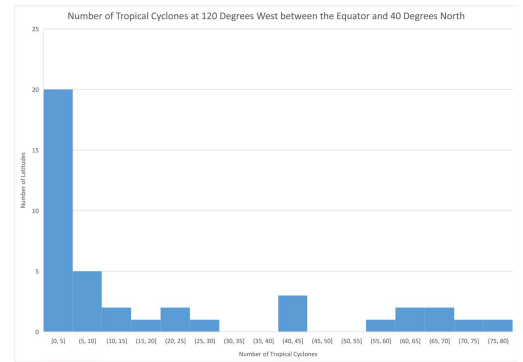
degree of latitude from the equator to 40 degrees North.

Question Set A

1. What does the histogram show?
2. Describe the shape of the distribution of the histogram. Is it skewed left (with more data to the left of the center of the distribution [a long "tail" of data to the left])? Skewed right (with more data to the right of the center of the distribution [a long "tail" of data to the right)? Uniform (with the data spread equally across x-axis)? Bell shaped? U-shaped?
3. What does the shape of the distribution tell you about the location and frequency of tropical cyclones?
4. What does it NOT show?

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Question Set B

1. How does the histogram relate to the map image?
    - The histogram presents the data of the total number of tropical cyclones in the region by showing _____, while the map presents data of the total number of tropical cyclones in the region by showing

      _____.
    - Which shows the number of tropical cyclones at each latitude? _____.
    - The number of latitudes with 6-10 tropical cyclones can be seen on the ____.
    - The pattern on the map shows_____, while the pattern on the histogram shows

      _____.
2. What kind of questions about tropical cyclones can you ask that a histogram will help you answer?
3. What do you wonder from the histogram? Can you answer it with this graph, or do you need to see the data in a different way?

This is part of the [Tropical Cyclone Counts Graphing Bundle](#) and can be completed independently or with the other activities in the bundle.

Earth System Data Explorer

- [Number of Tropical Cyclones (1842-2017)](#)